Linnæus University

Course syllabus

Faculty Board of Science and Engineering
School of Computer Science, Physics and Mathematics

1DV013 Databasteori, 7,5 högskolepoäng
Database Theory, 7.5 credits

Main field of study
Computer Science

Subject Group
Informatics/Computer and Systems Sciences

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved by Organisational Committee 2009-12-15

The course syllabus is valid from autumn semester 2010

Prerequisites
At least one year of university studies (equal to 60 higher education credits) including a basic course in data structures as well as good programming experiences.

Expected learning outcomes
After the course the student should:

- understand how a database works and how it is used
- understand what the relational model is and also be able to construct useful relational databases
- have acquired knowledge about SQL and how a database can be used from different high level languages
- have acquired basic knowledge about how a database is works internally
- have acquired knowledge about novel visual interfaces of databases

Content
Generally, the course contents gives a technical and conceptual foundation of database systems.
The following areas are included:

- database models
- database modelling
- relational algebra
- storage structures

- transactions
- SQL and other (partly visual) query languages
- system aspects of SQL (APIs)
- constraints
- visual database interfaces

Type of Instruction

Teaching consists of lectures, seminars and practical work. Practical work is carried out in groups.

Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).
On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.

Assessment of the student's performance is made through written or oral tests and presentation of compulsory practical assignments. The types of assessment used in the course will be decided on at the beginning of the course. Students who do not pass the regular examination are given the opportunity to do a resit examination shortly after the regular examination.

Course Evaluation

A written course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The course evaluation will be filed at the department.

Other

Upon request, a Swedish University degree will be issued upon successful completion of the full demand for that degree.

Students who receive a passing grade in the course may download a course certificate through the Student Portal. Otherwise they may request a course certificate from the school secretary.

Required Reading and Additional Study Material

Required reading

Garcia-Molina, H, Ullman, JD & Widom, J, *Database Systems – the Complete Book*, Prentice Hall, 2002. Pages 600 (1100).

DFM, *Distributed material and research papers*. Pages 100.